

Wireless Temperature & Humidity Transmitter

AW5145W User Manual



1 Product Overview

The AW5145W is a new type of temperature and humidity transmitter, using high quality digital capacitive sensor of the company's exclusive research and development. The AW5145W has the special feature of high measurement precision, strong anti-jamming capability, as well as the characteristics of strong stability, which guarantees excellent performance measurement of the products. The AW5145W can satisfy all the general application requirements.

The AW5145W can be applied to most industrial-grade environment with strong in anti-jamming capacity, high measuring accuracy and wide measuring range. A TFT color display with high clarity has been provided, displaying temperature and humidity values in real time. The interior design has alarm function module, which can achieve high/low temperature alarm and high/low wet alarm. The AW5145W has WIFI signal output and the standard MODBUS TCP communication protocol with the maximum range of up to 50 meters. It supports the installation of multi-network type temperature and humidity monitoring system, which can reach up to 254. The AW5145W is an excellent basic industrial grade temperature and humidity transmitter.

The AW5145W can be widely used in industrial workshop, telecom base station, communication room, HAVC, intelligent buildings, offices, museums, archives, etc. The AW5145W achieves an ideal solution for all kinds of application environment temperature and humidity measurement monitoring.

2 Sensor Performance

2.1 Relative Humidity (%RH)

| Parameter | Condition | Min | Typ. | Max | Units |
|-----------------|-----------|-----|------|------|--------|
| Resolution | | | 0.1 | | %RH |
| Measuring range | | 0 | | 99.9 | %RH |
| Drift | Typical | | 0.1 | | %RH/yr |
| Response time | | | 2 | | s |

2.2 Temperature (°C)

| Parameter | Condition | Min | Typ. | Max | Units |
|-----------------|-----------|-----|------|-----|-------|
| Resolution | | | 0.1 | | °C |
| Operating range | | -20 | ±0.5 | 60 | °C |
| Drift | Typical | | 0.1 | | °C/yr |
| Response time | | | 2 | | s |

2.3 Other specifications

- 1) Power consumption: ≤50mA (24V)
- 2) Supply voltage: 9~36VDC / USB 5V
- 3) Output signal: 2.4G wireless WIFI(IEEE802.11n)
- 4) Communications protocol: Standard MODBUS TCP
- 5) Storage Capacity: 12800 points (Maximum)
- 6) Product Net Weight: 125.79g

3 Dimensions

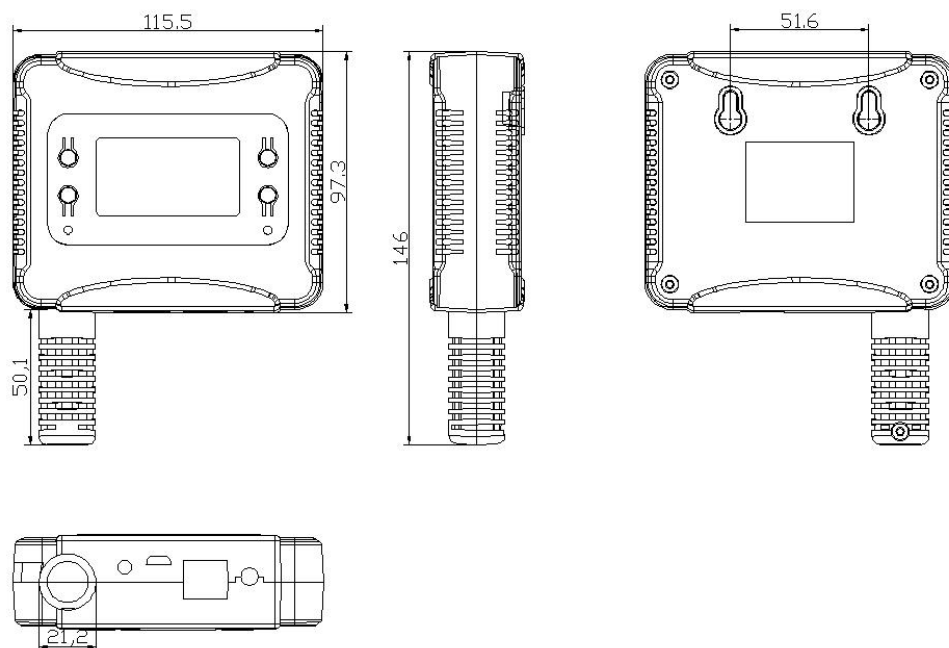


Figure 1 Dimension (Units: mm)

4 Panel Schematic and Product Installation

4.1 Panel Schematic

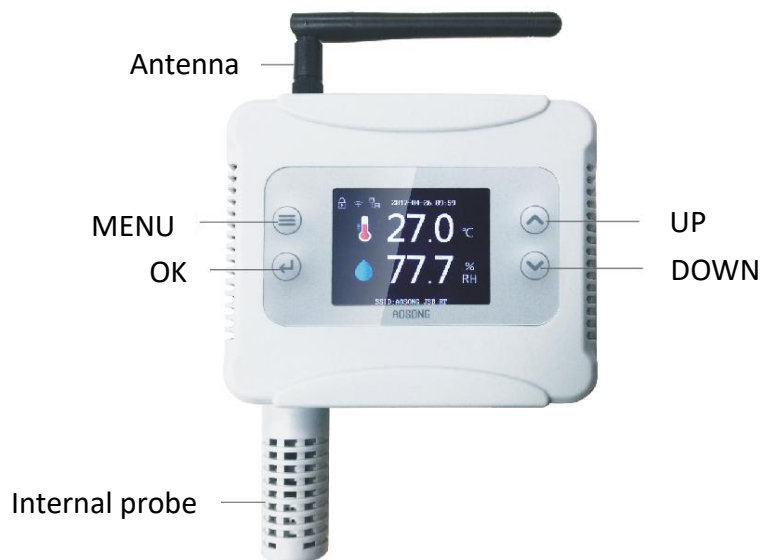


Figure 2 Panel schematic introduction

Note:

- 1 OK Key: Enter
- 2 MENU Key: Manual
- 3 UP Key: UP Selection

4 DOWN Key: Down sDelection

4.2 Installation

- 1 Paste the plotting sheet in the desired position of the product before installation.
- 2 Follow the position of the plotting sheet, and drill a fixed hole, then use two M4 screws (supplied in the attachment) to fix on the wall.
- 3 Hang the product on the wall. The hanger is shown in figure 4.

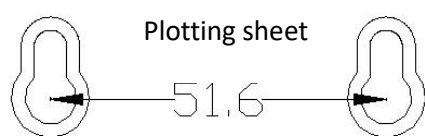


Figure 3 Plotting sheet fixing

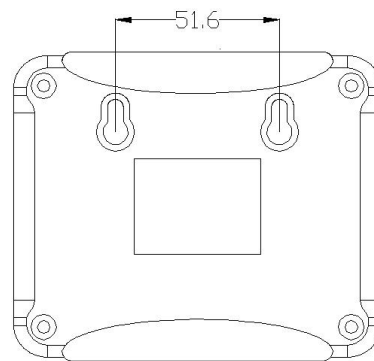


Figure 4 Fixing hanger

5 System Setup Menu

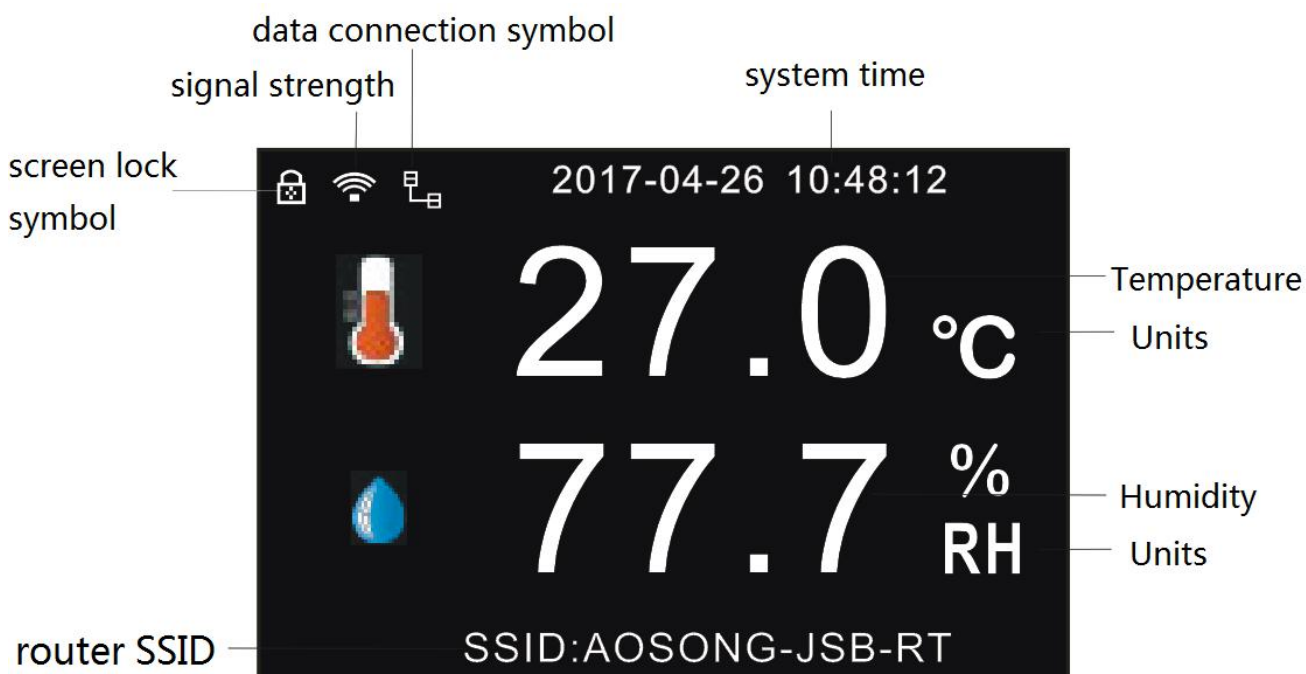


Figure 5 Main interface symbol explanation

5.1 System Startup Interface

After the power is turned on, the system will start automatically. After the system startup successfully, the LCD will display temperature and humidity by default. After 30 seconds, the

display screen will be locked automatically. There is a lock screen symbol on the top left of the screen.

5.2 LCD Display Unlock

The display will be automatically locked if the device does not make any key settings within 30 seconds. To unlock the screen, press the "OK" button to unlock, then you can setup the menu.

5.3 Network Setting

5.3.1 Router Configure

Transmitter can connect to the router when successfully obtained the SSID and password of the router by "AOSONG cloud platform APP". Then the transmitter can connect to the Internet. **There are two ways to configure the router, "get IP address automatically" and "set IP address manually". Normally, only "get IP address automatically" is used, and "set IP address manually" is used only when the IP address of the device need to be static.**

(1)The steps to connect to the router by "get IP address automatically" mode are shown as follows:

1)Long press the "OK" key to unlock the screen.

2)Press "MENU" key to enter the setup menu, select "Net Setting", press "OK" key to enter the submenu and select "Router Config", press "OK" key to enter the submenu and select "Auto IP".

3)Press the "OK" button, then the screen prompt "Press OK To Start". The mobile phone which install the "AOSONG cloud platform APP" and device should connect to the same router. Open the "AOSONG cloud platform APP" after the mobile phone connect to the router successfully. "SSID" indicates the name of the router that the mobile phone is currently connected to. Enter the router password in the "Password input box", select the number of transmitters to be configured in the "Device number", and then click "OK" to start configuring. The configuration interface are shown as below:

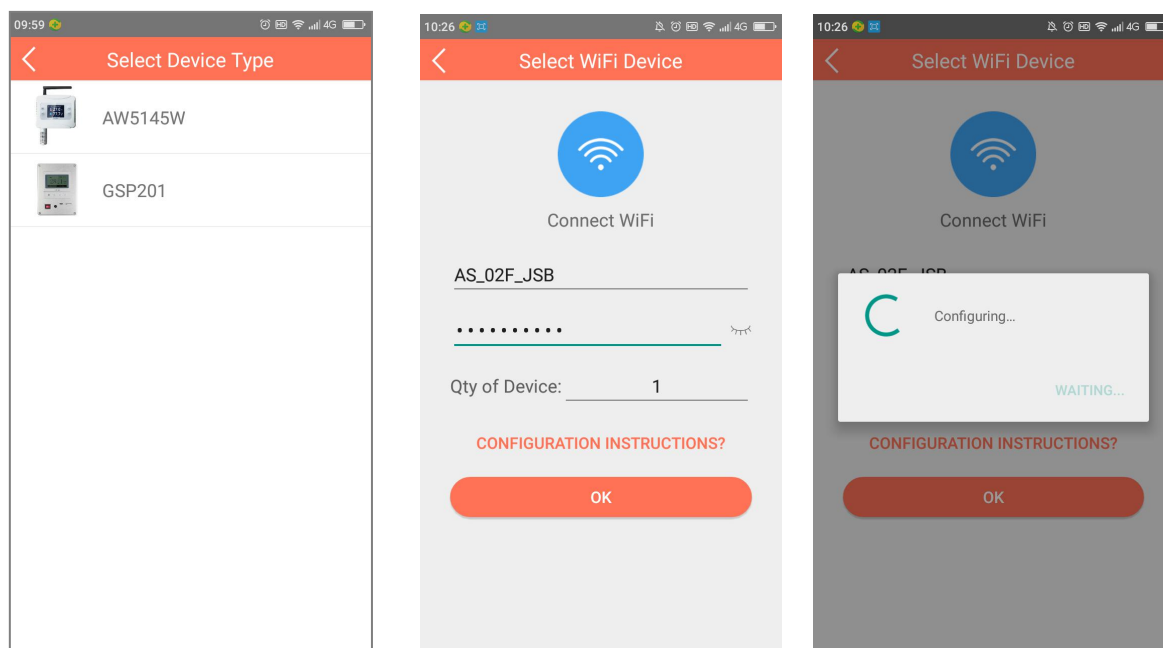


Figure 6 Configuration

4)After the configuration is successful, the transmitter prompts "Config Success". If the configuration is not successful in 5 minutes, the transmitter will prompt "Config timeout, press OK restart". Press "MENU" to return to the previous menu when configuration is successful. After returning to the main interface, "SSID" shows the name of the router, WIFI symbol shows the signal strength.

5)When press the "MENU" key during the configuration process, the transmitter will prompt "cancel configuration?", press the "UP" key or "DOWN" key to select "Yes" or "No", select "YES" and press "OK" key to cancel the configuration; select "NO" and press "OK" key to continue configuration.

(2)The steps of obtaining SSID and password of router in "set IP address Manually " way to connect to the router are shown as follows:

1)Long press the "OK" key to unlock the screen.

2)Press the "MENU" key to enter the setup menu, select "Net Setting", then press "OK" key to enter the submenu and select "Router Config", then press "OK" key to enter the submenu, press the "UP" key or "DOWN" key to select "manual IP". Press "OK" key and select "Net Address" to set network address, the default network address is

"192.168.001.010".The value"192" is displayed in highlight state. Press "OK" key, then the value "192" will be twinkling and now you can press the "UP" key or "DOWN" key to change its value. Press the "OK" key to finish setting .Then press the "UP" key or "DOWN" key to change the other three values.

Note: The network address manually set can not be the same as the network address of other network nodes in the LAN. Otherwise, it will cause communication failure.

3)Set the "Subnet Mask" (default 255.255.255.0) and "Default Gateway" (default 192.168.1.1) options as described above. After setting, enter the "Start configuration" option, prompting "Press OK to start configuration".

4)Refer to the "get IP address automatically" mode Step 3) 4) 5) to configure.

5.3.2 Communication Mode setting

(1)Long press the "OK" key to unlock the screen.

(2)Press "MENU" key to enter the setting menu, select "Net Setting", press "OK" key to enter the submenu and select "Server Type", press the "UP" key or "DOWN" key to select TCP or UDP, press "MENU" key to finish.

5.3.3 Server Address Setting

(1)Long press the "OK" key to unlock the screen.

(2)Press "MENU" key to enter the setting menu, select "Network Setting", press "OK" key to enter the submenu and select "Server Address" to set. The default Server address is 14.23.92.147, do not need to modify.

5.3.4 Server Port Setting

(1)Long press the "OK" key to unlock the screen.

(2) Press "MENU" key to enter the setting menu, select "Net settings", press "OK" key to enter the submenu and select "Server Port" to set. The default Server port is 9002, do not need to modify.

5.4 Alarm Settings

The transmitter supports temperature and humidity alarm function, you can set the temperature and humidity alarm value for alarm.

5.4.1 High Temperature Alarm Settings

(1) Long press the "OK" key to unlock the screen.

(2) Press "MENU" key to enter the setting menu, select "Alarm Setting", press "OK" key to enter the submenu and select "Temperature HAR", then press "OK" key to enter "Temperature HAR" interface.

(3) Press the "UP" key or "DOWN" key to set the high temperature alarm value and alarm switch.

5.4.2 Low Temperature Alarm Settings

(1) Enter the setting menu, select "Alarm Setting", press "OK" key to enter the submenu and select "Temperature LAR", then press "OK" key to enter "Temperature LAR" interface.

(2) Press the "UP" key or "DOWN" key to set the low temperature alarm value and alarm switch.

5.4.3 High Humidity Alarm Settings

(1) Enter the setting menu, select "Alarm Setting", press "OK" key to enter the submenu and select "Humidity HAR", then press "OK" key to enter "Humidity HAR" interface.

(2) Press the "UP" key or "DOWN" key to set the high humidity alarm value and alarm switch.

5.4.4 Low humidity alarm settings

(1) Enter the setting menu, select "Alarm Setting", press "OK" key to enter the submenu and

select "Humidity LAR", then press "OK" key to enter "Humidity LAR" interface.

(2) Press the "UP" key or "DOWN" key to set the low humidity alarm value and alarm switch. When the monitoring environment value reaches the pre-set temperature and humidity alarm value, the device will automatically alarm. The device will beep and the LCD screen will display corresponding alarm symbols. (HAR means High Alarm Range; LAR means Low Alarm Range)

5.5 Parameter settings

5.5.1 System Time Setting

Enter the "System Time" menu, press the "OK" key, the "year" highlighted in red, press the "UP" key or "DOWN" key to set the year value, press the "OK" key to select the other options to set. Press "MENU" key to finish and return back.

5.5.2 Upload Interval Setting

Enter the "Upload Interval" menu, press the "OK" key, the Options that can be set switch between "normal upload interval value", "units" and "alarm upload interval value". Press the "UP" key or "DOWN" key to set the corresponding value. Two kind of switchable units were minute and second.

5.5.3 Record Setting

(1) Record mode setting

Enter the "Record Mode" submenu, press "UP" key or "DOWN" key to select between "AUTO", "OPEN", and "CLOSE". By default, "OPEN" is selected and the record is always on. When "AUTO" is selected, the device will not record if connect to the network and start to record when the network is abnormal.

(2) Record frequency setting

Enter the "Record Interval" submenu, press "OK" key to select the option to set and press the "UP" key or "DOWN" key to change the value. The units is minute.

(3)Record cycle setting

Enter the "Record Cycle" submenu and press the "UP" key or "DOWN" key to change the cycle switch. When "Record Cycle" is closed, the device will stop recording when the record point reach 12800 point. When the "Record Cycle" is open, the first record is overwritten when the record is full.

(4)Record clear setting

Enter the "Record Clear" submenu, press the "UP" key or "DOWN" key to select "Yes" option and then press "OK" key to clear the record, then record is empty and start recording from point 1 again.

6 System Setting

6.1 Language Setting

(1)Enter the "System Setting" menu and press "OK" to enter the submenu. Select "Language" and press "OK" to enter the "Language" interface.

(2)Press the "UP" key or "DOWN" key to switch system language between Chinese and English.

6.2 Temperature Units Setting

(1)Enter the "System Settings" menu, select "Temperature Units" and press "OK" to enter.

(2)Press the "UP" key or "DOWN" key to switch temperature units between °C and °F.

6.3 Recover Setting

(1)Enter the "System Setting" menu and select "Recover", press "OK" to enter "Recover" interface.

(2)Press the "UP" key or "DOWN" key to select "Yes" option and then press "OK" key to start recover process. The recover process will take several seconds.

6.4 System Information

(1) Long press the "OK" key to unlock the screen.

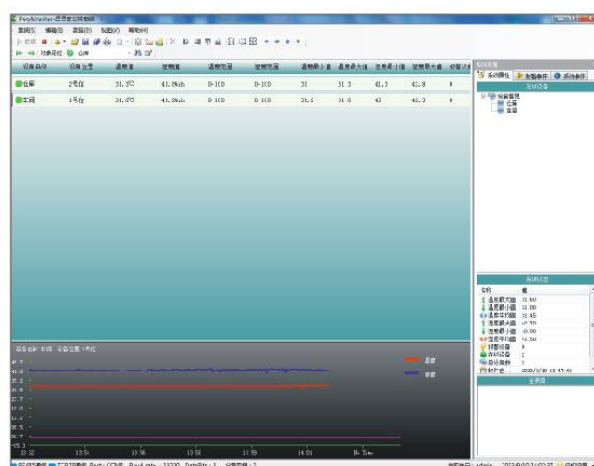
(2) Press "MENU" key to enter setting menu, enter the "System Setting" menu, select "System Information", press "OK" key to enter and view the system information parameters.

7 Monitoring software of upper monitor installation guidelines

If user needs to use the computer temperature and humidity monitoring system, it is necessary to install the "Temperature and Humidity Monitoring System" software in the computer first. Link: <http://www.aosong.com/cn/downloads/index.asp>.

The installation and setup steps are as follows:

1. Download and install the Microsoft Corp NET2.0 support library (If it is installed already, no need to install again)
2. Enter the company's official website download center, and download the upper monitor software "Temperature and Humidity Monitoring System". Decompress the file and double-click the "TH_Monitor.exe" file to complete the software installation. The software interface is shown below:



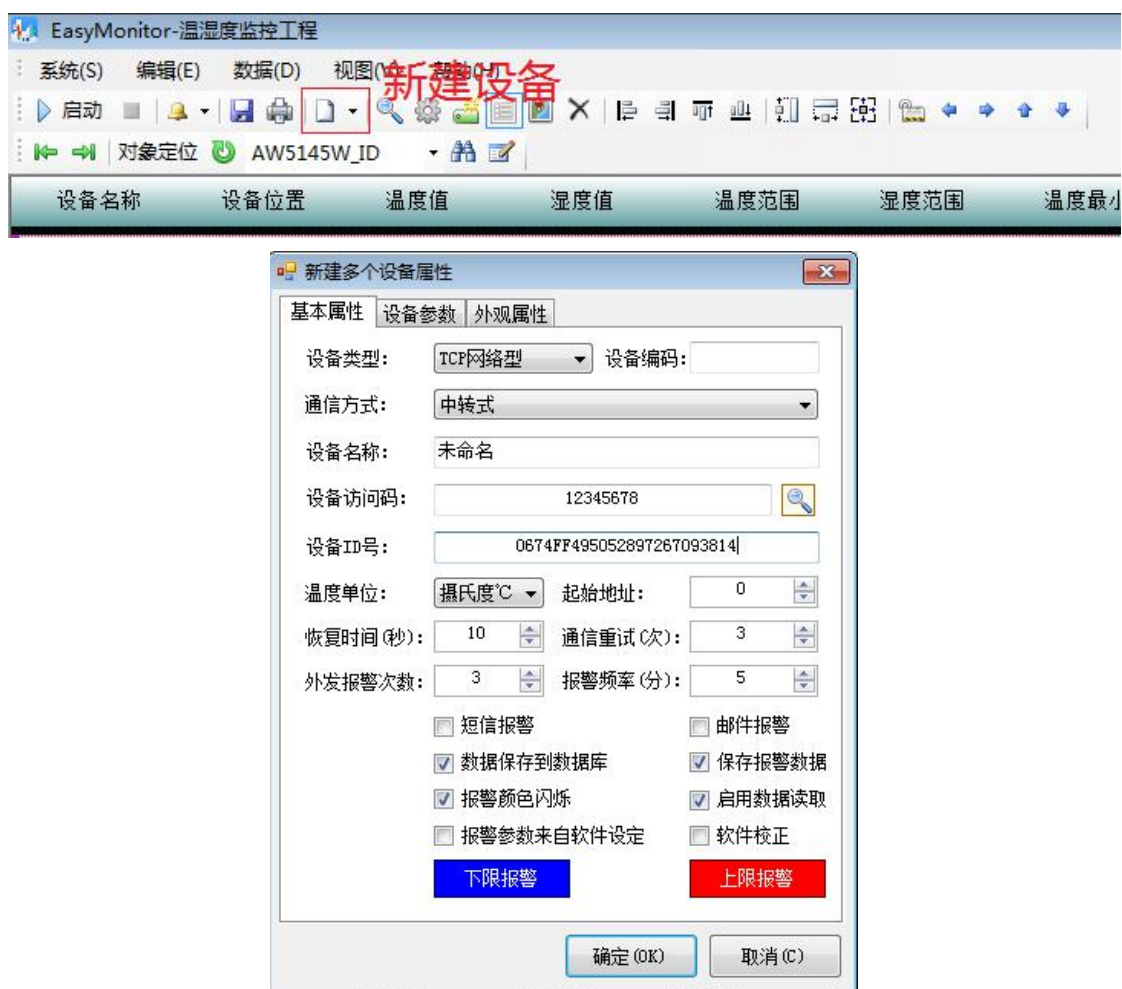
3. Based on 3 Network settings --> 3.2 Communication mode setting, set the transmitter communication mode to UDP.

4. The transmitter supports both transit and broadcast modes. Using the transit mode, data is uploaded directly to the server through the internet, then upper monitor software get the data from sever to display. Using the broadcast mode, upper monitor software communicate with the equipment directly in the LAN, not through the internet.

5. Transit mode related settings:

1) Set the transmitter remote address to 14.23.92.147 and remote port to 9002. In the default situation, it is no need to modify.

2) Click on “New Device” button of the menu bar, and new device dialog box pop-up. Select “TCP network”, “transit mode”, then enter the device access code and ID number. The device access code is fixed to 12345678, and the device ID number can be obtained by querying “device information”, and ID number is 24 bits. Click “OK” to add new device.



3) After the equipment added complete, click on the "start" button of the menu bar, and the

upper monitor start to communicate with transmitter. After communication success, the device name color of upper monitor changed from grey to green, and the top of screen of transmitter display upper monitor connected symbol.

6. Broadcast mode related setting

1) Click on the menu bar, select "system" >> "system property", and select "communication settings" in the system property dialog box. Change the waiting ACK time and polling interval, both recommend to be set to "500ms". Click "OK" after finished.



2) Click on "Scanner" symbol (magnifier symbol) of the menu bar, then scanning device dialog box pop-up. Select "send UDP", and click "scan" button. The upper monitor software will scan the transmitter in the same network segment, and wait for the scan to complete.

7. After the scan complete, click "finish" button, and new devices will add to the system automatically. The main interface pop-up scan to the device list. Click on the "start" button of the menu bar, and the upper monitor start to communicate with transmitter. After communication success, the device name color of upper monitor changed from grey to green, and the top of screen of transmitter display upper monitor connected symbol.

The use of software and control parameter settings for details please see software help files or software instructions. If there is any doubt please directly contact the professional and

technical personnel of Aosong company for help.

※Temperature and Humidity Correction

The system sometimes has a certain measurement deviation value. The temperature deviation value is $\pm 0.5^{\circ}\text{C}$, and the humidity deviation value is $\pm 3\%\text{RH}$, both regard as the normal phenomenon. The temperature and humidity correction settings can be set by the system hidden menu:

1. Long-press the OK button to unlock the display.
2. Then press the OK button and hold, and press the down select button at the same time, that is, open the correction menu.
3. The temperature and humidity correction value can be set by the menu operation and the up/down select button.

8 License Agreement

- 1) Without the written permission of the company, it shall not copy or disseminate the content of this specification in any form, nor shall it be disclosed to a third party.
- 2) The company and the third party have the ownership of the software, and the user can only use it after signing the contract or obtaining the software license.
- 3) The contents of this instruction manual are subject to change without prior notice.

9 Warning and Personal Injury

Do not apply this product to safety protection devices or emergency shutdown devices, and any other applications that may cause personal injury due to the malfunction of the product, unless otherwise authorized. Please refer to the product data sheet and Application guide before installation, processing, use, or maintenance of the product. Failure to comply with the recommendations may result in death and serious bodily harm. The company will not be liable for all damages resulting in personal injury or death, and avoid the company managers and employees, agents, distributors and other subsidiary may have any claim, including all the costs and compensation costs, legal fees etc.

10 Quality Assurance

The company provides quality assurance for 12 months for the original purchaser of the products (calculated from the date of shipment), in accordance with the technical specifications of the data book of the product published by the company. If the product is proved to have its own quality problems during the warranty period, the company will provide free maintenance or replacement. The user must meet the following conditions:

- 1) The purchaser must notify the company of the defect in writing within 14 days of discovery.
- 2) The purchaser shall pay the shipping charges for product mailed back to company.
- 3) The product should be within the warranty period.

The company is solely responsible for products that are defective in situations where the technical conditions of the product are met. The company applies its products to those special applications without any warranties or statements, as well as any commitment to the reliability of the products applied to products or projects.



Android APP



iOS APP